



City of Seattle

Department of Planning and Development
Diane M. Sugimura, Director

**CITY OF SEATTLE
ANALYSIS AND DECISION OF THE DIRECTOR OF
THE DEPARTMENT OF PLANNING AND DEVELOPMENT**

Application Number: 3012353
Applicant Name: Mark Clement
Address of Proposal: 1135 S Webster St

SUMMARY OF PROPOSED ACTION

Shoreline Substantial Development Application to allow the excavation of 63,000 cubic yards of soil and back fill with 22,000 cubic yards of clean soil in an environmentally critical area. Project includes sediment clean up, habitat restoration, four net attachment pilings and a temporary dock (640 sq. ft.). Determination of Non-Significance (DNS) prepared by the City of Tukwila.

The following approvals are required:

Shoreline Substantial Development Permit pursuant to Seattle Municipal Code (SMC) 23.60

SEPA — for conditioning only — pursuant to SMC 25.05

SEPA DETERMINATION: ☐ Exempt ☐ DNS ☐ EIS
☐ DNS with conditions
☒ DNS involving non-exempt grading or demolition or involving another agency with jurisdiction¹.

BACKGROUND DATA

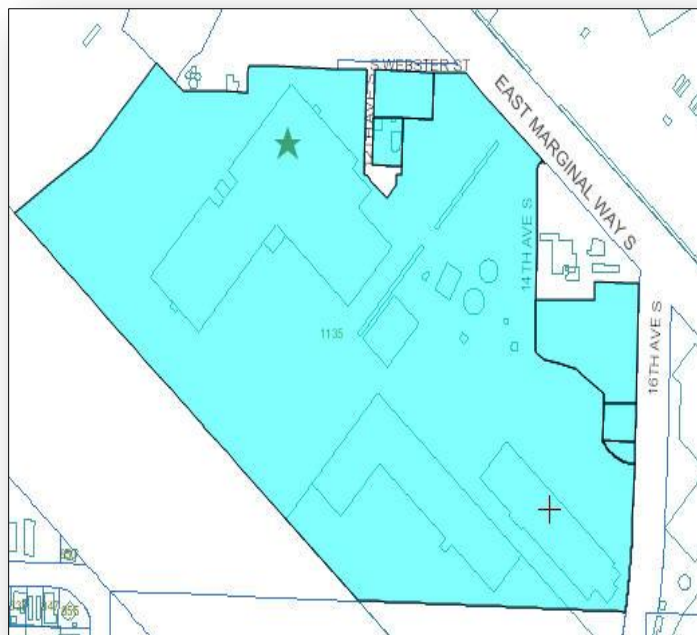
Site and Vicinity

The Site is located on the east bank of the Lower Duwamish Waterway between river miles 2.8 and 3.6 in Tukwila and Seattle, WA. Tax parcels #3324049002, 0022000005, 2185000005, 0001600020, & 332404HYDR. The nearest intersection is S. 81st Pl and E. Marginal Way S.

¹ DNS by Carol Lumb, Senior Planner for Jack Pace, Director, Department of Community Development, City of Tukwila.

Background

As a result of pollution controls adopted in the early 1970's that kept wastes out of the air and water, growing amounts of solid wastes were being generated and deposited on the land. Disposal on land was largely uncontrolled, resulting in numerous instances of serious effects on human health and environmental quality. The contamination of groundwater by substances leaching from disposal sites was a primary concern driving the adoption of the federal legislation – Resource Conservation and Recovery Act (RCRA), which was adopted in 1976. RCRA regulates the handling and disposal of hazardous wastes and also required that open dumping of all solid wastes be brought to an end throughout the country by 1983.



Boeing Plant 2 historically specialized in manufacturing aluminum alloy, steel alloy and titanium alloy parts for airplanes. This manufacturing process utilized hazardous materials that in turn generated hazardous waste and hazardous constituents which are regulated under RCRA. These materials were released at and from Plant 2, including into the Lower Duwamish Waterway (LDW). Large electricity generators, transformers and related equipment have operated on Plant 2 for most of its history, beginning in the 1930's, to support its operations. Poly-chlorinated biphenyls (PCBs) are a hazardous waste constituent commonly found in this type of electrical equipment. PCBs were also a significant component in high performance paints, caulking and related materials from as early as the 1930s until 1979, when their manufacturing, distribution and use was banned. Other hazardous constituents released at or from Plant 2 include various metals and volatile and semi-volatile organic compounds in solvents, cleaners and associated products and other petroleum-based hazardous constituents from fuels and other sources.

Boeing has gone through a number of steps in order to reach the point of removing the contaminated sediments from the Lower Duwamish Waterway. A Facility Investigation/Corrective Measures Study was conducted to determine the nature and extent of hazardous constituent releases at or from Plant 2. The Corrective Order lists specific criteria for evaluating corrective measures alternatives and also includes five Decision Factors for evaluating the alternatives. (see Statement of Basis for Proposed Corrective Action, Duwamish Sediment Other Area and Southwest Bank, Boeing Plant 2, EPA Identification Number WAD 00925 6819, Administrative Corrective Order on Consent 1092-01-022-3008 (h), dated March, 2011).

The proposed action under SEPA reflects the August 8, 2011 EPA selected clean-up alternative for the DSOA and Southwest Bank area - to excavate to a target depth to remove all contaminated sediments that exceed the Sediment Quality Standards (SQS), followed by backfilling with clean material that meets Target Media Cleanup Levels that are protective of people who consume resident Lower Duwamish Waterway seafood.

Land/Shoreline Uses

The uplands area and adjacent properties are used for airplane development and office space by the Boeing Company. Both shorelines of the Lower Duwamish Waterway are highly developed and industrialized. The Lower Duwamish Waterway is heavily used by commercial vessels such as tug boats and barges as well as smaller vessels.

The only structure located in the project area is an approximate 1,000-foot-long section of Buildings 2-41, 2-44 and 2-49, which are concrete floor slabs that overhang the Duwamish Waterway shoreline bank. The floor slab overhanging portion is approximately 59 feet wide and is supported by wooden piles. The floor slab is physically separated from the uplands by a continuous bulkhead wall. Running underneath the overhang are a number of pipes, foundations and other utility infrastructure. One element of the project is to remove the existing concrete slab, pilings, riprap, foundations, and bulkheaded areas. The area under these structures will then be excavated and then restored to provide habitat for aquatic resources. Boeing will also place a total of six piles to serve as net attachments for the Muckleshoot Tribe to use when fishing.

There are similarities in the way Seattle and Tukwila zone and designate this area in their comprehensive plans and zoning codes:

Jurisdiction	Current Zoning	Comprehensive Plan Designation	Shoreline Designation	Designated a Sensitive Area?
Seattle	General Industrial One w/ unlimited/85-foot ht. limit	Greater Duwamish Manufacturing/Industrial Center	Urban Industrial	Yes – migration corridors for WDFW listed priority species; LDW designated as shoreline habitat
Tukwila	Manufacturing Industrial Center-Heavy	Manufacturing Industrial Center-Heavy	Urban	No – shorelines regulated under TMC 18.44 or KCC 25.16 depending on location of project not City's Sensitive Areas Ordinance

Approximately 16,000 cubic yards of the soil excavated from the North Shoreline Area within the City of Seattle will be reused as structural fill to raise the grade of a parking lot located at the intersection of East Marginal Way South and 16th Avenue South. The parking lot is located outside of the shoreline jurisdiction. Placement of the fill will require some modification to the existing stormwater system. The parking lot will be paved, lighted, striped and landscaped to meet City of Seattle requirements.

The proposed project is the result of over a decade of cooperative efforts between Boeing, federal, tribal, state and local agencies and has undergone extensive review by these agencies. This lengthy process will hopefully ensure that the proposed project will be compatible with existing and projected land uses and plans.

Proposal

Boeing is conducting the Duwamish Sediment Other Area (DSOA) and Southwest Bank Corrective Measure pursuant to the Administrative Order on Consent (Order) issued to Boeing in 1994 by U.S. EPA [Resource Conservation and Recovery Act (RCRA) Docket No. 1092-01-22-3009(h)]. Approximately 270,000 cubic yards of material will be dredged from the river channel to remove contaminated sediment. Concurrent with the RCRA sediment and Southwest Bank project, Boeing will construct habitat restoration in accordance with a Consent Decree between the Natural Resource Trustees and Boeing that was executed in December, 2010. Boeing will also perform upland soil remediation adjacent to the shoreline. The overall project will remove contaminated sediments and soils from the project site and will restore/create shoreline habitat. The project is located in Seattle and the City of Tukwila. Tukwila is acting as SEPA lead agency for the City of Seattle and the Port of Seattle. Shoreline substantial development permits will be issued separately by Seattle and Tukwila for work in the shoreline jurisdiction in their respective jurisdictions.

The key elements of the project include:

- Construction of a temporary dock in Slip 4 to assist the movement of personnel from the land to the floating equipment;
- Placement of seven pilings adjacent to the shoreline for net attachments;
- Dredging with subsequent backfilling of the DSOA open-water areas;
- Dredging with backfilling of the area under Building 2-40;
- Removal of sediment and subsequent backfilling of the Outfall 12 area;
- Removal of contaminated bank fill material from the Southwest Bank area with subsequent reconstruction of the bank;
- Removal of sediment from 4 areas with subsequent backfilling within the Boeing-owned portion of Slip 4;
- Removal of uplands soils adjacent to bank areas along Building 2-40 and the Southwest Bank; and
- Two restoration projects to restore and/or create off-channel and riparian habitats in an area where they have been largely eliminated due to the channelization and industrialization of the Lower Duwamish Waterway.

Public Notice and Comment Period

Notice of the application was published on February 2, 2012. The required public comment period ended on March 2, 2012. The Land Use Application information is available at the Public Resource Center located at 700 Fifth Ave, Suite 2000².

² <http://www.seattle.gov/dpd/PRC/LocationHours/default.asp>

ANALYSIS – ENVIRONMENTALLY CRITICAL AREAS

The Environmentally Critical Areas Ordinance was adopted to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the development site and to adjacent properties.

The proposed activities include development over water within the shoreline habitat environmentally critical area, pursuant to SMC 25.09.020. The activities are allowed by Seattle's shoreline regulations, as analyzed below; and therefore are consistent with allowed development in the ECA shoreline habitat pursuant to SMC 25.09.200, as long as sufficient habitat mitigation is provided pursuant to SMC 25.09.200 (B) (3).

ANALYSIS - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT

Substantial Development Permit Required

Section 23.60.030 of the Seattle Municipal Code provides criteria for review of a shoreline substantial development permit and reads: *A substantial development permit shall be issued only when the development proposed is consistent with:*

- A. The policies and procedures of Chapter 90.58 RCW;*
- B. The regulations of this Chapter; and*
- C. The provisions of Chapter 173-27 WAC.*

Conditions may be attached to the approval of a permit as necessary to assure consistency of the proposed development with the Seattle Shoreline Master Program and the Shoreline Management Act.

A. THE POLICIES AND PROCEDURES OF CHAPTER 90.58.RCW

Chapter 90.58 RCW is known as the Shoreline Management Act of 1971. It is the policy of the State to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. This policy contemplates protecting against effects to public health, the land use and its vegetation and wild life, and the waters of the state and their aquatic life, while protecting public right to navigation and corollary incidental rights. Permitted uses in the shoreline shall be designed and conducted in a manner to minimize, insofar as possible, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water.

The Shoreline Management Act provides definitions and concepts, and gives primary responsibility for initiating and administering the regulatory program of the Act to local governments. The Department of Ecology is to primarily act in a supportive and review capacity, with primary emphasis on insuring compliance with the policy and provisions of the Act. As a result of this Act, the City of Seattle adopted a local Shoreline Master Program, codified in the Seattle Municipal Code at Chapter 23.60. Development on the shorelines of the state is not to be undertaken unless it is consistent with the policies and provisions of the Act, and with the local master program. The Act sets out procedures, such as public notice and appeal requirements, and penalties for violating its provisions. As the following analysis will demonstrate, the subject proposal is consistent with the procedures outlined in RCW 90.58.

B. THE REGULATIONS OF CHAPTER 23.60

The regulations of SMC, Section 23.60.064 require that the proposed use(s): (1) conform to all applicable development standards of both the shoreline environment and underlying zoning; (2) be permitted in the shoreline environment and the underlying zoning district and (3) satisfy the criteria of shoreline variance, conditional use, and special use permits as may be required.

SMC 23.60.004 - Shoreline Policies

The Shoreline Goals and Policies that are part of the Seattle Comprehensive Plan's Land Use Element and the purpose and locational criteria for each shoreline environment designation contained in SMC 23.60.220 must be considered in making all discretionary decisions in the shoreline district.

The proposed development action will occur within an Urban Industrial (UI) shoreline environment and over water. The purpose of the UI Environment is to provide efficient use of industrial shorelines for water-dependent and water-related industrial uses.

Boeing is conducting the Duwamish Sediment Other Area (DSOA) and Southwest Bank Corrective Measure pursuant to the Administrative Order on Consent (Order) [Resource Conservation and Recovery Act (RCRA) Docket No. 1092-01-22-3008(h)] issued to Boeing in 1994 by the U.S. Environmental Protection Agency (EPA) under authority of RCRA Section 3008(h), as amended [42 USC 6928(h)]. Corrective measures for the DSOA were evaluated through an evaluation process described in the Duwamish Sediment Other Area and Southwest Bank Corrective Measure Alternatives Study. The EPA selected the preferred alternative in the Statement of Basis for Proposed Corrective Action, DSOA and Southwest Bank and subsequently issued the Final Decision and Response to Comments for Boeing Plant 2 Sediments in August 2011.

A discussion of the consistency of the proposed project with SMC 23.60.032 is provided below where the special use criteria are listed with a brief statement following that demonstrates how the proposed project meets the criterion.

SMC 23.60.032 Criteria for Special Use Approvals

Uses which are identified as requiring special use approval in a particular environment may be approved, approved with conditions or denied by the Director. The Director may approve or conditionally approve a special use only if the applicant can demonstrate all of the following:

- A. That the proposed use will be consistent with the policies of RCW 90.58.020 and the Shoreline Policies;

The Revised Code of Washington (RCW) 90.58.020 states, in part, the following: The legislature declares that the interest of all of the people shall be paramount in the management of shorelines of statewide significance. The department, in adopting guidelines for shorelines of statewide significance, and local government, in developing master programs for shorelines of statewide significance, shall give preference to uses in the following order of preference which:

- (1) Recognize and protect the statewide interest over local interest;

The proposed project will improve environmental conditions within the Lower Duwamish Waterway, thereby protecting both statewide and local interests.

- (2) Preserve the natural character of the shoreline;

The proposed construction will restore the natural character of the shoreline through removal of contaminated sediments and restoration of the shoreline and will create a more diverse ecological environment.

- (3) Result in long term over short term benefit;

Although the proposed project will have some short-term effects, such as localized increases in turbidity during dredging, there will be a long-term net beneficial effect through removal of contaminated sediments and creation of more ecologically diverse habitat.

- (4) Protect the resources and ecology of the shoreline;

The proposed project will restore shoreline habitat thereby protecting resources and shoreline ecology.

- (5) Increase public access to publicly owned areas of the shorelines;

The proposed project will have no effect on access to publicly-owned areas of the shoreline.

- (6) Increase recreational opportunities for the public in the shoreline;

The proposed project will not change public recreational opportunities.

- (7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

The proposed project is expected to be consistent with other elements as defined in RCW 90.58.100.

- B. That the proposed use will not interfere with the normal public use of public shorelines;

The shoreline is not publically owned; however, there is currently public access to the shoreline along Slip 4 and will be maintained.

- C. That the proposed use of the site and design of the project will be compatible with other permitted uses within the area;

The proposed project will be compatible with other permitted uses within the area.

- D. That the proposed use will cause no unreasonably adverse effects to the shoreline environment in which it is to be located; and

The proposed use is habitat restoration and contaminated sediment cleanup which will have no adverse effect on the shoreline environment.

E. That the public interest suffers no substantial detrimental effect.

The proposed project is shoreline restoration and contaminated sediment cleanup which will have no detrimental effect on the public.

Development Standards

The proposal must meet the development standards for the UI Environment (SMC 23.60.870), as well as the general development standards for all shoreline environments (SMC 23.60.152). Additionally, the proposed project must also meet the development standards of the underlying General Industrial (IG1 U/85) zone (SMC 23.50). The Director may attach to the permit or authorize any conditions necessary to carry out the spirit and purpose of, and ensure the compliance with, the Seattle Shoreline Master Program (SMC 23.60.064).

The proposed action is therefore subject to the following general and specific shoreline development standards:

General Development Standards for all Shoreline Environments (SMC 23.60.152)

These general standards apply to all uses in the shoreline environments. They require that all shoreline activity be designed, constructed, and operated in an environmentally sound manner consistent with the Shoreline Master Program and with best management practices for the specific use or activity. All shoreline development and uses must, in part: (1) minimize and control any increase in surface water runoff so that receiving water quality and shoreline properties are not adversely affected; (2) be located, designed, constructed, and managed in a manner that minimizes adverse impact to surrounding land and water uses and is compatible with the affected area; and (3) be located, constructed, and operated so as not to be a hazard to public health and safety.

The proposal, as conditioned and mitigated, is consistent with the general standards for development within the shoreline area. General development standards (SSMP 23.60.152) state that Best Management Practices shall be followed for any development in the shoreline environment. These measures are required to prevent contamination of land and water. The Stormwater, Grading and Drainage Control Code (SMC 22.800) places considerable emphasis on improving water quality. A condition is imposed on this permit pursuant to Shoreline and SEPA authority, to ensure that Best Management Practices are followed. To ensure conformance with the General Development Standards and the Shoreline Master Program, the proponent will be required to notify contractors and subcontractors of the conditions of this permit.

The following general development standards are particularly relevant to this project and are highlighted below:

- A. *The location, design, construction and management of all shoreline developments and uses shall protect the quality and quantity of surface and ground water on and adjacent to the lot and shall adhere to the guidelines, policies, standards and regulations of applicable water quality management programs and regulatory agencies. Best management practices such as paving and berming of drum storage areas, fugitive dust controls and other good housekeeping measures to prevent contamination of land or water shall be required.*

Activities associated with the proposal could adversely impact water quality, the aquatic environment, and species that use this area; particularly if — paints, fiberglass, petroleum, and other like products/or — materials are not properly used, stored, and prevented from entering the water. The project proponents have committed in their application material to implement Best Management Practices (BMPs) for the protection of the aquatic environment, including using all BMPs required by Department of Ecology for vessel repair work over and adjacent to the water.

It is a condition of this approval the proposal shall adhere to the guidelines, policies, standards, and regulations of applicable water quality management programs and regulatory agencies, including obtaining any necessary permit(s) from Ecology for this facility. These BMPs shall be clearly posted for all employees to see and use at this facility, and employees shall be properly trained to implement all applicable BMPs.

H. All shoreline developments and uses shall be located, designed, constructed and managed to avoid disturbance, minimize adverse impacts and protect fish and wildlife habitat conservation areas including, but not limited to, spawning, nesting, rearing and habitat areas, commercial and recreational shellfish areas, kelp and eel grass beds, and migratory routes. Where avoidance of adverse impacts is not practicable, project mitigation measures relating the type, quantity and extent of mitigation to the protection of species and habitat functions may be approved by the Director in consultation with state resource management agencies and federally recognized tribes.

This proposal will occur in the aquatic and shoreline environment of the Lower Duwamish Waterway that provides habitat for Chinook salmon. The project site serves as a migration corridor as well as potentially rearing area for juvenile Chinook salmon from the Duwamish River and other water bodies in Water Resource Inventory Area. Additionally, predators of juvenile Chinook are known to inhabit areas under overwater structures and may use these areas as cover while preying on juvenile Chinook. Overwater coverage reduces the amount and quality of natural habitat of juvenile Chinook salmon and provides habitat for predator species of juvenile Chinook.

Development Standards for UI Shoreline Environments (SMC 23.60.870)

The development standards set forth in the Urban Industrial Shoreline Environment are as follows:

SMC 23.60.872 Height in the UI Environment

The structure heights are consistent with the maximum height limits allowed in the Duwamish Waterway for accessory structures and water-dependent or water-related use, pursuant to SMC 23.60.872 B 2.

SMC 23.60.874 Lot coverage in the UI Environment

Structures may occupy up to one hundred percent of both submerged and dry-land areas of waterfront lots in the UI environment.

SMC 23.60.874 View corridors in the UI Environment

A view corridor is not required for this project, since water-dependent and water-related uses occupy more than 50 percent of the dry land portion of the lot.

SMC 23.60.880 Development standards specific to water-related uses on waterfront lots in the UI Environment.

Water-related uses shall be designed and located on the shoreline to encourage efficient use of the shoreline. Design considerations may include setbacks from all or a portion of the waters' edge, joint use of piers and wharves with other water-related or water-dependent uses, development of the lot with a mixture of water-related and water-dependent uses, or other means of ensuring continued efficient use of the shoreline.

The project is designed to maintain the existing level of efficient use of the shoreline.

SMC 23.60.882 Regulated public access in the UI Environment

This use is considered a water-related use and is not required to provide public access.

C. THE PROVISIONS OF CHAPTER 173-27 WAC

Chapter 173-27 WAC sets forth permit requirements for development in shoreline environments and give the authority for administering the permit system to local governments. The State acts in a review capacity. The Seattle Municipal Code Section 23.60 (Shoreline Development) and the RCW 90.58 incorporates the policies of the WAC by reference. These policies have been addressed in the foregoing analysis and have fulfilled the intent of WAC 173-27.

Summary

The proposal, as conditioned, including the proposed mitigation, is consistent with the provisions set forth by 90.58 RCW, 173-27 WAC, and Chapter 23.60 SMC also known as the Seattle Shoreline Master Program (SSMP), thereby minimizing any adverse impact to the shoreline environment, to water quality, to the natural shoreline processes, and the surrounding land and water uses.

DECISION - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT

The Shoreline Substantial Development Permit is **CONDITIONALLY GRANTED** subject to the conditions listed at the end of this decision.

ANALYSIS - SEPA

The initial disclosure of the potential impacts from this project was made in the environmental checklist submitted by the applicant dated June 23, 2011 (updated August 3, 2011). The information in the checklist and the experience of the lead agency with review of similar projects form the basis for this analysis and decision.

The SEPA Overview Policy (SMC 25.05.665 D) clarifies the relationship between codes, policies, and environmental review. Specific policies for each element of the environment, certain neighborhood plans, and other policies explicitly referenced may serve as the basis for exercising substantive SEPA authority.

The Overview Policy states, in part: "Where City regulations have been adopted to address an environmental impact, it shall be presumed that such regulations are adequate to achieve sufficient mitigation," subject to some limitations. Under such limitations/circumstances (SMC 225.05.665 D1-7) mitigation can be considered. Thus, a more detailed discussion of some of the impacts is appropriate.

Summary of Impacts

Earth

The work is taking place primarily in the Lower Duwamish Waterway, with some work on the river banks. These areas are characterized by flat areas in the channel itself and steep slopes on the banks – the steepest slope is approximately 65 degrees. The soils include gravels, silts and sands with riprap on the banks. Percent fines and total organic carbon content in the surface sediments vary greatly. Percent fines ranges from 2 to approximately 91 percent with an average of approximately 45 percent. Total organic carbon ranges from 0.5 to approximately 8.3 percent with an average of approximately 2.1 percent.

Approximately 270,000 cubic yards of material will be dredged or excavated as part of this project. It is estimated that approximately 230,000 cubic yards of backfill material will be necessary. The source of the fill material is not known at this time; however, the source will be an upland quarry that will be approved by EPA as part of the design process. The grain size of the backfill material will be as fine as possible while still providing stability against erosion. In some places along the river bank, a layer of larger rock, such as quarry spalls or riprap, may be placed below the sand/sand and gravel mixture to provide suitable erosion resistance or slope stability.

Sediment dredging will result in localized and temporary re-suspension of dredged sediments. Short-term contaminant risks can be expected primarily from increases in water column exposure. The resulting increase in water column exposure can result in adverse effects to aquatic biota. Potential increases in turbidity during dredging could affect juvenile salmonids in the immediate dredge area through decreased visibility, which could in turn affect behaviors such as feeding and homing, territoriality and avoidance responses. To reduce potential negative effects of turbidity on juvenile salmonids, even of limited duration, dredging will be timed to occur during the allowed work window specifically to avoid juvenile outmigration periods. This timing should dramatically reduce the possibility of dredging work occurring when juvenile salmonids are present.

Best Management Practices will be integrated into the design specifications and Construction Quality Assurance Project Plan, both of which must be approved by EPA from the eleven potential BMPs that have been evaluated to-date.

Erosion is possible in the shoreline restoration areas during construction, but unlikely once shoreline restoration is complete as this work will include re-vegetation with native plant species. An erosion prevention plan is being prepared and will be implemented during the construction phase of the project. The clean sediment surface will be monitored for at least ten years after completion of placement.

Air

During construction, diesel-powered equipment (e.g. excavators, tug boats, trucks etc.) will be used resulting in exhaust of diesel combustion vapors to the atmosphere. The volume of exhaust vapors is unknown. No air emissions resulting from the project will occur once the project is complete.

Greenhouse Gas Emissions

Construction activities including construction worker commutes, truck trips, the operation of construction equipment and machinery, and the manufacture of the construction materials themselves result in increases in carbon dioxide and other greenhouse gas emissions which adversely impact air quality and contribute to climate change and global warming. While these impacts are adverse, they are not expected to be significant.

Water

In order to remove the contaminated sediments, the project must occur in and adjacent to the Lower Duwamish Waterway, which discharges to Puget Sound. Approximately 270,000 cubic yards of material will be dredged or excavated and approximately 230,000 cubic yards of backfill material will replace material that has been removed. As discussed under "Earth" above, there will be some suspension of dredge material into the water column of the Lower Duwamish Waterway. There will be no withdrawals of groundwater, although groundwater is being monitored currently for contamination levels and will continue to be monitored twice a year for a time period to be determined.

The uplands area of the Boeing project site is currently served by a stormwater collection system that discharges to the Lower Duwamish Waterway through National Pollution Discharge Elimination System permitted storm drains. Stormwater discharges to the Lower Duwamish will not change.

Waste materials will not enter the groundwater from this project. Best Management Practices will be used to reduce sediment re-suspension potentially resulting from dredging.

A temporary dock will be constructed in Slip 4 to facilitate the movement of personnel from land to the floating equipment. The dock will also provide moorage for vessels required to support the construction of the project. The dock will be no larger than 640 square feet. Access to the dock will be provided by a six-foot wide ramp from the upland area. The inshore side of the dock will be located at approximately -8 feet MLLW and will be held in place with up to 16 twelve-inch steel piles. The piles will be installed and removed using vibratory equipment to the extent practicable. Installation of the temporary dock will not interfere with or change public access to the Slip 4 shoreline. The access ramp will be located in an area where there is currently no riparian vegetation. If any vegetation is removed, the area will be replanted with native species. The dock will be located entirely within the Boeing owned portion of Slip 4.

Boeing will also coordinate with the Muckleshoot Tribe to install pilings for net attachments for use by the Tribe for fishing in the Duwamish River. Figure 1, at the end of the staff report, identifies the approximate location of the pilings to be installed, subject to approval by the Duwamish Waterway Natural Resources Trustees. Currently, four pilings are proposed to be located in the City of Seattle and an additional three in the City of Tukwila.

As part of the DSOA and Southwest Bank Corrective Measure, EPA requires monitoring be conducted – pre- and post-construction monitoring, post-construction subsurface core sample monitoring, and post-construction monitoring. These monitoring activities will include the collection of sediment surface grab samples and subsurface core samples. EPA will approve plans for each of the monitoring activities.

Plants

A variety of native and non-native deciduous and evergreen trees exist on the upland portions of the project site along with invasive species such as Himalayan blackberry and butterfly bush. At the north-end restoration area, about 118 trees will be removed to create the off-channel habitat. No wetland or aquatic plants exist on-site.

The shoreline restoration components of the proposed project will use native plants to revegetate the restored shoreline. The preliminary, 90% Draft Landscaping Drawings have been submitted as part of the SEPA application. The Natural Resource Trustees will give final approval of the landscaping plan. Following Trustees approval of the shoreline restoration design, a detailed planting plan will be submitted to Tukwila and Seattle. As part of the Consent Decree with the Natural Resource Trustees, a Scope of Work for the development of the habitat restoration projects was approved and is attached as Appendix C to the SEPA Checklist.

The 90% drawings include the following plant materials. Marsh plantings: Lyngby's sedge (*Carex lyngbyei*), Bulrush species (*Schoenoplectus* sp., Soft stem bulrush [*S. tabernaemontanii*], Hardstem bulrush [*S. acutus*], and American bulrush [*S. americanus*]), Tufted hairgrass (*Deschampsia cespitosa*), Pacific silverweed (*Potentilla anserina*), and Douglas aster (*Aster subspicatus*). Riparian plantings will include a mix of shrubs and small trees above +12 feet mean lower low water (MLLW) and extending shoreward from the +12 foot MLLW contour a minimum of 25 feet. Shrub plantings to be considered include, but are not limited to: Hooker willow (*Salix hookeriana*), ocean spray (*Holodiscus discolor*), Oregon grape (*Mahonia aquifolium*), Pacific willow (*Salix lasiandra*), red-osier dogwood (*Cornus stolonifera*), Sitka willow (*Salix sitchensis*), snowberry (*Symphoricarpos albus*), twinberry-black (*Lonicera involucrata*), and wild rose (*Rosa gymnocarpa*). Tree species include: Big-Leaf Maple (*Acer macrophyllum*), Bitter Cherry (*Prunus emarginata*), Black Cottonwood (*Populus balsamifera* ssp. *trichocarpa*), Black Douglas Hawthorn (*Crataegus douglasii*), Douglas fir (*Pseudotsuga menziesii*), Oregon Ash (*Fraxinus latifolia*), Red Alder (*Alnus rubra*), Shorepine (*Pinus contorta*), and Sitka Spruce (*Picea sitchensis*), western hazelnut (*Corylus cornuta*). As noted above, the Natural Resource Trustees will approve the final landscaping plan for the shoreline restoration sites.

Animals

The site is adjacent to the Duwamish Waterway, which is a migratory route for Chinook, Chum, Coho, Pink, Steelhead, and Cuthroat Salmon and Bull Trout. Other fish include Starry Flounder, various Sculpins, Pile Perch, Dungeness Crab and shellfish.

The site is also on the route of the Pacific Flyway, a migratory bird route. Birds include hawk, heron, eagle, songbirds, cormorants, dabbling and diving ducks, kingfishers, Canada goose, crows, pigeons, and gulls.

Mammals include beaver, river otter, rat, raccoon, rabbit and squirrel.

As part of this project, a series of mitigation measures will be implemented, including the following:

- Approximately 4.8 acres of intertidal and riparian area will be restored/created;
- Approximately 2,400 linear feet of shoreline will be restored (at elevation +10 ft. MLLW)
- Approximately 700 linear feet of new shoreline will be created (at elevation +10 ft. MLLW)
- Approximately 53,000 sq. ft. of over-water building will be removed; and
- Approximately 560 piles and 10,000 sq. ft. of wave abatement skirting will be removed.

Energy/Natural Resources

The completed project will have no energy needs.

Environmental Health

The purpose of the project is to remove contaminated sediments, both in the Lower Duwamish Waterway and along the riverbank. There is no risk of fire or explosions as a result of the proposed project. Petroleum spills are a possible consequence of the use of diesel-powered equipment; however, all barges and tugs will be equipped with spill kits to contain any petroleum spills. The use of hazardous chemicals at the project site is not anticipated.

The sediment dredging will result in localized and temporary re-suspension of dredged sediments, as discussed under “Earth” above.

The project will generate both above and below water noise as the sediments are being dredged/removed from either the waterway or river bank. Above water noise will be generated by diesel powered equipment, including tug boats, dredging derricks, excavators, front-end loaders, and vibratory pile drivers/extractors. Average maximum noise levels (dBA) at 50 feet from construction equipment are provided below (WSDOT 2010).

- Backhoe 78
- Clam shovel (dropping) 87
- Crane 81
- Excavator 81
- Frontend loader 79
- Vibratory pile driver 101

Underwater noise will be generated primarily from dredging, vibratory pile extraction/installation, marine engines, and propeller cavitation. Field investigations were conducted by the Corps of Engineers' Dredging Operations and Environmental Research (DOER) program in Cook Inlet, Alaska, to characterize underwater sounds of a typical bucket dredging operation. Dickerson et al. (2001) reported that mechanical dredges produce a repetitive sequence of sounds generated by:

- winches and derrick movement associated with placing bucket in water;
- bucket impacts with the substrate;
- digging into substrate (especially gravel or other coarse material);
- bucket closing;
- winches and derrick movement associated with removing bucket from water; and
- the emptying of material into a hopper barge or scow.

The six sound events are repeated on approximately a 1-minute period with minor (e.g., 10- to 15-second) variations. Occasional interruptions in the cycles occurred to accommodate barge maneuvering, dumping and washing activities, and equipment maintenance (Dickerson et al. 2001).

Although there may be more frequent occurrences of underwater noise due to marine engines and propeller cavitation, the noise level from these sources is not expected to be greater than under existing conditions given the current degree of marine vessel traffic using the Lower Duwamish Waterway in the project area. The hours during which the proposed project will be constructed have not yet been established, but will be stipulated in the federal, state, and local permits issued for the project and work plans approved by EPA.

The project work will comply with the noise regulations of the respective jurisdiction in which it takes place - Tukwila (TMC 8.22) or City of Seattle (SMC 25.08).

Light/Glare

Work hours have not been finalized for the project, however, it is anticipated that work will be conducted during periods of darkness, which will require shoreline and floating equipment lighting. To the extent practicable, shields will be installed on equipment lighting to minimize direct lighting of the adjacent residential areas.

Recreation

The portion of the project located in Tukwila is privately owned and used for commercial purposes – no recreational opportunities exist on that portion of Boeing's property. At the northern end of the project area, within Seattle, there are areas that are open to the public and provide some recreational opportunity, primarily fishing. The northern area will remain open to the public, however, when the restoration area is constructed, public access will be restricted to protect the newly planted marsh and riparian vegetation. In addition, the area will be fenced to preclude access by herbivores.

Historic/Cultural Preservation

A Preliminary Archaeological Monitoring Plan has been prepared for review and approval by the Trustees. Boeing will be coordinating with the Office of Archaeology and Historic Preservation and the affected Tribes for review and comment prior to finalizing the document. The Corps of Engineers also will review the Work Plan during the course of project review. Boeing intends to develop the project consistent with the protocols included in the final work plan and with any conditions that may be imposed by agencies with jurisdiction related to mitigating the project's potential archaeological impacts.

TMC 18.50.110, Archaeological/Paleontological Information Preservation Requirements applies to all zoning districts in the City. Under TMC 18.50.110, the applicant is required to provide a written commitment to stop work immediately upon discovery of archaeological remains and to consult with the State Office of Archaeology and Historic Preservation. This will be a requirement of the shoreline permit and the building permits issued for the project.

Transportation

The project will not generate a need for transit/transportation services or increase traffic volume in the usual sense. The project consists of excavation that will take place both in the water (dredging) and on the land (shoreline). The land-based work is scheduled to start in August, 2012 and be completed in December, 2014. The dredging is scheduled to start in October, 2012 and be completed in February, 2015. The dredging activities will typically take place from August through February each year.

The majority of truck trips will be generated from the shoreline work. Dredging is expected to generate a minimal number of truck traffic for mobilization and demobilization; all sediment removal and import of the backfill material will be performed in the Duwamish Waterway on barges. The dredged sediment will be transferred to land, at a transload facility, and shipped to the final landfill by rail. Backfill in the waterway will be delivered by barge. Therefore, the truck traffic estimates are for the shoreline activities.

An estimated 75,000 cubic yards (CY) of soil and an estimated 5,000 CY of debris (concrete, wood, etc.) will be excavated from the shorelines. Approximately 15,000 CY of excavated soil from the North Shoreline Area will be re-used as backfill at Plant 2 in Lot 16. Therefore, a total of 65,000 CY of material will be trucked offsite and an estimated 45,000 CY of backfill material will be imported. The truck traffic will include miscellaneous maintenance activities for services (e.g. fuel delivery), as well as material deliveries during the course of the project. Material shipments are expected to utilize truck and trailer dump trucks and occasional solo dump truck and flatbed semi-trailer traffic.

Excavated material shipments will be delivered to a landfill transfer facility in South Seattle or trucked directly to the landfill. The imported backfill will come from different sources that are yet to be determined, but for planning purposes Boeing expects the majority will come from South King County or Pierce County. In order to estimate the number of trucks needed to haul material in and out of the site, Boeing used an average of 20 CY-capacity for each truck trip. This will translate to a total of approximately 5,500 truck trips for export and import. This averages out over the period of 29 months of the project to approximately 207 truck trips per month, or approximately 7 trips per day. In addition, approximately 500 truck trips have been estimated for mobilization, demobilization and routine service deliveries. This averages out to a little more than 17 truck trips per month.

The number of truck trips might be reduced at the time of construction if backhauling imported backfill can be arranged. However, such savings in truck trips have not been included in the current estimates. The anticipated truck traffic per month is tabulated in Table 1, located at the end of this staff report. At this point, given the estimates provided, it appears there is sufficient capacity on the streets adjacent to the site to handle these trips. As part of obtaining hauling permits from the appropriate jurisdiction(s), the hauling routes will be identified and conditions applied as warranted.

Public Services

The completed project will not generate any need for public services.

Utilities

As part of Boeing's redevelopment of the uplands property, the stormwater system in the southern portion of the Plant 2 facility is being upgraded. As part of the stormwater system upgrades, three new outfall pipes will be installed. The outfalls will be approximately 24 to 36 inches in diameter. Rock pad armoring meeting King County requirements will be installed adjacent to the new outfalls. The invert elevation of the outfalls will be approximately 0 to +6 feet MLLW. The new outfalls will be included in the existing Plant 2 Industrial Stormwater General Permit. An existing outfall at the southern end of Plant 2 will be shortened and a rock pad meeting King County requirements will be installed.

During construction, temporary stormwater outfalls may be necessary to reroute stormwater. The temporary outfalls, if required, will be installed in the general vicinity of the permanent outfalls described above. Any impacts associated with stormwater upgrades will be mitigated by compliance with King County Surface Water Design Manual.

DECISION SEPA³

This decision was made after review by the responsible official on behalf of the lead agency of a completed environmental checklist and other information on file with the responsible department. This constitutes the Threshold Determination. The intent of this declaration is to satisfy the requirement of the State Environmental Policy Act (RCW 43.21.C), including the requirement to inform the public of agency decisions pursuant to SEPA.

[X] Determination of Non-Significance with conditions. This proposal has been determined to not have a significant adverse impact upon the environment. An EIS is not required under RCW 43.21.030(2) (c).

CONDITIONS – SEPA

None.

³ DNS by Carol Lumb, Senior Planner for Jack Pace, Director, Department of Community Development, City of Tukwila.

CONDITIONS - SHORELINE

For the Life of the Project

1. The Applicant/Agent at this site shall be required to read, sign, and follow the Best Management Practices plan that has been developed for this project. The BMP plan shall follow all applicable BMPs required by Washington Department of Ecology for protection of water quality and activities near and over water.
2. A spill prevention kit shall be located on site and at least 3 employees shall be properly trained in using the spill protection kit.
3. A maintenance and monitoring plan shall be established for the proposed revegetation/mitigation area that ensures establishment and long-term maintenance and survival of proposed plantings, including contingency for replacement of dead plants over time. This plan should include language that prohibits use of chemical fertilizers, pesticides or herbicides within 50 feet of OHW or provides specific rationale for need and BMPs for these applications.

Signature: (signature on file)
Colin R. Vasquez, Senior Land Use Planner
Department of Planning and Development

Date: August 16, 2012